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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	1	of	7

Complete if Known	
Application Number	09/834,596
Filing Date	April 13, 2001
First Named Inventor	Watanabe *et al.*
Group Art Unit	1623
Examiner Name	Howard V. Owens, Jr.
Attorney Docket Number	08841.105037 PHAR 2020

3372258_3

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. [1]	U.S. Patent Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/Relevant Figures Appear
HV	AA	3,480,613		Walton *et al.*	11-25-1969	
	AB	5,977,061		Holy *et al.*	11-02-1999	
	AC	6,340,690	B1	Bachand *et al.* (Idenix Pharm.)	01-22-2002	
	AD	6,395,716	B1	Gosselin *et al.* (Idenix Pharm.)	05-28-2002	
	AE	6,444,652	B1	Gosselin *et al.*	09-03-2002	
	AF	6,573,248	B2	Ramasamy *et al.*	06-03-2003	
	AG	2002/0055483	A1	Watanabe *et al.*	05-09-2002	
	AH	2002/0147160	A1	Bhat *et al.*	10-10-2002	
	AI	2003/0008841	A1	Devos *et al.*	01-09-2003	
	AJ	2003/0028013	A1	Wang *et al.*	02-06-2003	
	AK	2003/0050229	A1	Sommadossi *et al.* (Idenix Pharm.)	03-13-2003	
	AL	2003/0083307	A1	Devos *et al.*	05-01-2003	
HV	AM	2003/0087873	A1	Stuyver *et al.*	05-08-2003	

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	~~AN~~	~~FR~~	~~1,521,076~~ ✓		~~Merck & Co. Inc.~~	~~04-12-1968~~		
	~~AO~~	~~FR~~	~~1,581,628~~ ✓		~~Merck & Co. Inc.~~	~~09-19-1969~~		
	~~AP~~	~~FR~~	~~2,662,165~~ ✓	~~A1~~	~~Univ Pierre et Marie Curie, Paris~~	~~11-22-1991~~		
HV	AQ	GB	1,163,103 A ✓		Merck & Co. Inc.	09-04-1969		
HV	AR	GB	1,209,654 A ✓	A	Merck & Co. Inc.	10-21-1970		
	~~AS~~	~~JP~~	~~63 215694~~ ✓	~~A~~	~~Yamasa Shoyu Co. Ltd.~~	~~09-08-1988~~		
	~~AT~~	~~JP~~	~~06-228186~~ ✓	~~A~~	~~Yamasa Shoyu Co. Ltd.~~	~~08-16-1994~~		
HV	AU	WO	98/16184 ✓	A2	ICN Pharmaceuticals Inc.	04-23-1998		
HV	AV	WO	99/43691 ✓	A1	Emory U./Georgia Res. Found.	09-02-1999		

Examiner Signature	Howard Owens	Date Considered	6/30/04

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HO	BA	WO	00/09531	A2	Novirio (Idenix Pharmaceuticals)	02-24-2000		
	BB	WO	01/16671	A1	Novirio (Idenix Pharmaceuticals)	03-08-2001		
	BC	WO	01/32153	A2	Biochem Pharma, Inc.	05-10-2001		
	BD	WO	01/60315	A2	Biochem Pharma, Inc.	08-23-2001		
	BE	WO	01/68663	A1	ICN Pharmaceuticals Inc.	09-20-2001		
	BF	WO	01/79246	A2	Pharmasset Ltd..	10-25-2001		
	BG	WO	01/90121	A2	Novirio (Idenix); Univ...Cagliari	11-29-2001		
	BH	WO	01/91737	A2	Novirio (Idenix Pharmaceuticals)	12-06-2001		
	BI	WO	01/96353	A2	Novirio (Idenix); CNRC	12-20-2001		
	BJ	WO	02/03997	A1	ICN Pharmaceuticals Inc.	01-17-2002		
	BK	WO	02/18404	A2	F. Hoffmann-La Roche AG	03-07-2002		
	BL	WO	02/32920	A2	Pharmasset Ltd.	04-25-2002		
	BM	WO	02/48165	A2	Pharmasset Ltd.	06-20-2002		
	BN	WO	02/057287	A2	Merck & Co. Inc.; Isis Pharm.	07-25-2002		
	BO	WO	02/057425	A2	Merck & Co. Inc.; Isis Pharm.	07-25-2002		
	BP	WO	02/070533	A2	Pharmasset Ltd.	09-12-2002		
	BQ	WO	02/094289	A1	F. Hoffmann-La Roche AG	11-28-2002		
	BR	WO	02/100415	A2	F. Hoffmann-La Roche AG	12-19-2002		
	BS	WO	03/026589	A2	Novirio (Idenix Pharmaceuticals)	04-03-2003		
	BT	WO	03/026675	A1	Novirio (Idenix Pharmaceuticals)	04-03-2003		
	BU	WO	03/051899	A1	Ribapharm Inc.	06-26-2003		
	BV	WO	03/061385	A1	Ribapharm Inc.	07-31-2003		
	BW	WO	03/061576	A2	Ribapharm Inc.	07-31-2003		
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	BY	WO	03/062256	A1	Ribapharm Inc.	07-31-2003		
HO	BZ	WO	03/062257	A1	Ribapharm Inc.	07-31-2003		

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Sheet 3 of 7

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HO	CA	WO	03/063771	A2	Pharmasset Ltd.	08-07-2003		
HO	CB	WO	03/068162	A2	Pharmasset Ltd.	08-21-2003		
HO	CC	WO	03/072757	A2	Biota Inc.	09-04-2003		
HO	CD	WO	03/093290	A2	Genelabs Technologies Inc.	11-13-2003		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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	CE	ALTMANN, K.H., *et al.*, "The Synthesis of 1'-methyl carbocyclic thymidine and its effect on nucleic acid duplex stability", *Synlett*, Thieme Verlag, Stuttgart, De, **October 1994**, *10*, 853-855	
	CF	BAGINSKY, S.G. *et al.*, "Mechanism of action of a pestivirus antiviral compound," *Proc. Nat. Acad. Sci. (USA)* **2000**, 97(14), 7981-7986.	
	CG	BEIGELMAN, L.N., *et al*, "Dimerization during the acetolysis of 3-O-acetyl-t-O-benzoyl-1,2-O-isopropylidene-3-C-methyl-α-D-ribofuanose. synethesis of 3'-C-methylnucleosides with the β-D-*ribo*- and α-D-*arabino* configurations", *Carbohydrate Research*, **1988**, *181*, 77-88.	
	CH	BEIGELMAN, L.N., *et al*, "A general method for synthesis of 3' C-alkylnucleosides", *Nucleic Acids Symp. Ser.*, **1981**, *9*, 116-119.	
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	CM	FAIVRE-BUET, V., *et al*, "Synthesis of 1'-Deoxypsicofuranosyl-deoxynucleosides as Potential Anti-HIV Agents," *Nucleosides & Nucleotides*, **1992**, *11(7)*, 1411-1424.	
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Examiner Signature	Howard Owens	Date Considered	6-30-04

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Application Number	09/834,596
Filing Date	April 13, 2001
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	DA	FARKAS, J., "Nucleic acids components and their analogues. LXXIX. Synthesis of methyl 1-deoxy-D-psicofuranosides substituted at C(1) with halo atoms or a mercapto group,", *Collect. Czech. Chem. Commun.* **1966**, *31*, 1535-1543.	
	DB	FEDEROV, I.I., *et al.*, "3'-C-branched 2'-deoxy-5-methyluridines: Synthesis, enzyme inhibition, and antiviral properties,", *J. Med. Chem.*, **1992**, *35*, 4567-4575.	
	DC	FRANCHETTI, P., *et al.*, "2'-C-methyl analogues of selective adenosine receptor agonists: Synthesis and binding studies," *J. Med. Chem.*, **1998**, *41*, 1708-1715.	
	DD	GROUILLER, A., *et al.*, "Novel p-tolyenesulfonylation and thionocarbonylation of unprotected thymine nucleosides," *Synlett*, **1993**, 221-222.	
	DE	HARAGUCHI, K., *et al.*, "Preparation and reactions of 2'- and 3'- vinyl bromides of uracil-nucleosides: versatile synthons for anti-HIV agents," *Tetrahedron Letters*, **1991**, *32(28)*, 3391-3394.	
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	DG	HARRY-O'KURU, *et al.*, "A short, flexible route toward 2'-C-branched ribonucleosides", *J.Org. Chem.* **1997**, *62*, 1754-1759	
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	DM	ITOH, Y., *et al.*, "Divergent and stereocontrolled approach to the synthesis of uracil nucleosides branched at the anomeric position," *J. Org. Chem.*, **1995**, *60*, 656-662.	
	DN	JOHNSON, C.R., *et al.*, "3'-C-trifuloromethyl ribonucleosides, *Nucleosides & Nucleotides*, 1995, *14*, 185-194.	

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	EA	KAWANA, M., *et al*, "The deoxygenation of tosylated adenosine derivatives with Grignard reagents," *Nucleic Acids Symp. Ser.*, **1986**, *17*, 37-40.	
	EB	LAVAIRE, S., et al, "3'-deoxy-3'-trifluoromethyl nucleosides : synthesis and antiviral evaluation," *Nucleosides & Nucleotides*, **1998**, 17, 2267-2280.	
	EC	LEYSSEN, P. *et al.*, "Perspectives for the treatment of infections with Flaviviridae", *Clinical Microbiology Reviews*, Washington, D.C., (January 2000), 13(1), 67-82.	
	ED	MARTIN, X., *et al.*, "Intramolecular hydrogen bonding in primary hydroxyl of thymine 1-(1-deoxy-β-D-psicofuranosyl) nucleoside," *Tetrahedron*, **1994**, *50*, 6689-6694.	
	EE	MATSUDA, A., *et al.*, "Radical deoxygenation of tert-alcohols in 2-branched-chain sugar pyrimidine nucleosides : synthesis and antileukemic activity of 2'-deoxy-2'(S)-methylcytidine," *Chem. Pharm. Bull.*, **1987**, *35*, 3967-3970.	
	EF	MATSUDA, A., *et al.*, "Nucleosides and Nucleotides. 94. Radical deoxygenation of *tert*-alcohols in 1-(2-C-alkylpentofuranosyl)pyrimidines : Synthesis of (2'S)-2'-deoxy-2'-C-methylcytidine, an antileukemic nucleoside," *J. Med. Chem.*, **1991**, *34*, 234-239.	
	EG	MATSUDA, A., *et al*, "Nucleosides and Nucleotides. 104. Radical and palladium-catalyzed deoxygenation of the allylic alcohol systems in the sugar moiety of pyrimidine nucleosides," *Nucleosides & Nucleotides*, **1992**, *11*(*No. 2/4*), 197-226.	
	EH	MATSUDA, A., *et al.*, "Alkyl addition reaction of pyrimidine 2'-ketonucleosides: synthesis of 2'-branched-chain sugar pyrimidine nucleosides (Nucleosides and nucleotides. LXXXI.)," *Chemical & Pharmaceutical Bulletin*, **March 1988**, *36*, 945-953.	
	EI	MIKHAILOV, S.N., *et al*, "Synthesis and properties of 3'-C-methylnucleosides and their phosphoric esters," *Carbohydrate Research*, **1983**, *124*, 75-96.	
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	EL	NUTT, R.F., *et al.*, "Branched-chain sugar nucleosides. III. 3'-C-methyladenine," *J.Org. Chem.* 1968, 33, 1789-1795.	

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	FA	OIVANEN, M., *et al*, "Additional evidence for the exceptional mechanism of the acid-catalysed hydrolysis of 4-oxopyrimidine nucleosides : hydrolysis of 1-(1-alkoxyalkyl)uracils. Seconucleosides. 3'-C-alkyl nucleosides and nucleosides 3',5'-cyclic monophosphates," *J. Chem. Soc. Perkin Trans.*, 1994, *2*, 309-314.	
	FB	ONG, S.P., *et al*, "Synthesis of 3'-C-methyl adenosine and 3'-C-methyluridine diphosphates and their interaction with the ribonucleoside diphosphate reductase from *Corynebacterium* nephridii," *Biochemistry*, 1992, *31*, 11210-11215.	
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Examiner Signature	Howard Owens	Date Considered	6-30-04

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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	7	of	7

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Complete if Known	
Application Number	09/834,596
Filing Date	April 13, 2001
First Named Inventor	Watanabe *et al.*
Group Art Unit	1623
Examiner Name	Howard V. Owens, Jr.
Attorney Docket Number	08841.105037 PHAR 2020

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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. [1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[6]
	GA	TUNITSKAYA, V.L., *et al.*, "Substrate properties of C'-methyl-UTP derivatives in T7 RNA polymerase reactions. Evidence for N-type NTP conformation," *FEBS Letters*, **1997**, *400*, 263-266.	
	GB	USUI, H., *et al.*, "Synthesis of 2'-deoxy-8,2'-ethanoadenosine and 3'-deoxy-8,3'-ethanoadenosine (Nucleosides and Nucleotides. LXIV)," *Chem. Pharm. Bull.*, **1986**, *34*, 15-23.	
	GC	WALCZAK, K., *et al.*, "Synthesis of 1-(3-alkyl-2,3-dideoxy-D-pentofuranosyl)uracils with potential anti-HIV activity," *Acta Chemica Scand.*, **1991**, *45*, 930-934.	
	GD	WALTON, E., *et al.*, "Branched-chain sugar nucleosides. V. Synthesis and antiviral properties of several branched-chain sugar nucleosides," *J. Med. Chem.*, **1969**, *12*, 306-309.	
	GE	WOLFE, M.S., *et al.*, "A concise synthesis of 2'-C-methylribonucleosides," *Tetrahedron Letters*, **1995**, *36(No. 42)*, 7611-7614.	
	GF	WU, J.-C., *et al.*, "A new stereospecific synthesis of [3.1.0] bicyclic cyclopropano analog of 2',3'-dideoxyuridine," *Tetrahedron*, **1990**, *46*, 2587-2592.	

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Examiner Signature	Howard Owens	Date Considered	6-30-04

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Sheet 1 of 3

Application Number	09/834,596
Filing Date	13 April 2001
First Named Inventor	Watanabe, K.
Group Art Unit	1614
Examiner Name	Not Assigned
Attorney Docket Number	PHARM1

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KO		5534535		Townsend, et al.	9 July 1996	
KO		6159951		Karpeisky et al.	12 Dec. 2000	
KO		5905070		Schinazi, etal.	18 May 1999	
KO		6271212		Chu, et al.	7 Aug. 2001	
KO		6248878		Matulic-Adamic et al.	19 June 2001	

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Sheet 2 of 3

Application Number	09/834,596
Filing Date	04/13/01
First Named Inventor	WATANABE
Group Art Unit	1614
Examiner Name	Not Assigned
Attorney Docket Number	PHARM1

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HO		Fedorov, I., et al., XIII International Round Table: Nucleosides, Nucleotides and Their Biological Applications. Montpellier, France, September 6-10, 1998. Poster 35.	
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HO		Brown, B., J. Org. Chem., 1998, 63:8012-18	

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Sheet 3 of 3

Application Number	09/834,596
Filing Date	04/13/01
First Named Inventor	WATANABE
Group Art Unit	1614
Examiner Name	Not Assigned
Attorney Docket Number	PHARM1

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HO		Pudlo, J., Nucleosides & Nucleotides, 11(2-4), 279-93 (1992)	
		Fiandor, J., et al., Nucleosides & Nucleotides, 8(5&6), 1107-8 (1989)	
		Jeong, L., et al., Nucleosides & Nucleotides, 16(7-9), 1059-62 (1997)	
		Jorgensen, P., et al., Nucleosides & Nucleotides, 16(7-9), 1063-66 (1997)	
		Frieden, M., et al., J. Chem. Soc. Perkin Trans I, 1998, 2827-32	
		Slusarchyk, W., J. Med. Chem., 1992, 35:1799-1806	
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HO		Qiu, Y., et al., J. Med. Chem., 1998, 41:10-23	
HO		Sekiyama, T., J. Med. Chem., 1998, 41:1284-98	

Examiner Signature	Howard Flanders	Date Considered	7-1-04

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